cases the consolidated patches were confluent. He is of opinion that the loss or diminution of the tendon reflex is due to the action of specific toxic substances on the nerves at the periphery and at the reflex center. The sign may be of service in the differential diagnosis of pneumonia from meningitis.

JELLIFFE.

THE CRIMINAL RESPONSIBILITY OF THE EPILEPTIC. John Punton (Med. Record, Nov. 15, 1902).

The author draws the following deductions: (1) That epilepsy is a symptom of some brain disease; (2) that its continual presence tends toward mental deterioration; (3) that mental responsibility of the epileptic depends upon the extent to which the mind or self control has been impaired by the epilepsy; (4) that the legal test of insanity is not sufficient, as mental irresponsibility is not incompatible with a knowledge of right from wrong; (5) that epileptics are to some degree at least, responsible for criminal acts, especially when the epilepsy is produced by their own fault; (6) that criminal acts of epileptics appeal to medicine rather than to law for their proper adjudication; (7) that in all cases of murder in which epilepsy is proven the law should be amended to allow of like commitment to an insane hospital rather than to the penitentiary; (8) that the mental responsibility of the epileptic should be referred to a medical commission appointed by the court, which again may be referred to local or county medical societies to name its members.

Universal medical experience indicates that well established epilepsy is a sure sign of biological inferiority. But it is absolutely necessary to demonstrate in each case the extent to which mind control has been impaired by the epilepsy, as well as the existence of epileptic insanity. All authorities agree that irritability, impulsiveness and aversion to control are the marked characteristics of the epileptic psychoses. In true epileptic mania, the criminal act is usually unpremeditated, motiveless and accompanied by impairment of consciousness and temporary loss of memory. Homicide is its legitimate product.

W. B. NOYES.

ACUTE POLIOMYELITIS AND ENCEPHALITIS. F. E. BATTEN (The Lancet, Dec. 20, 1902).

Upon the question as to what is the cause of the changes noted in these two diseases in the nervous tissues concerned, and especially as to the part in that cause played by thrombosis, the following points are offered. It has been stated by those who support the view that the condition is primarily inflammatory, that many observers have occluded the vessels of the spinal cord for varying periods, and examined the changes so produced, but, although they found marked chromatolysis of the nerve cells, they did not find perivascular exudation or hemorrhage. Furthermore, they state that Dr. Leonard Hill ligated the cerebral arteries in monkeys and the brains of these animals were examined by Dr. F. W. Mott at various periods after the operations, who found extreme chromatolysis of the cortical cells, but no inflammatory change or hemorrhage. Such an argument sounds almost conclusive, and would at once negative the view that there is primary thrombosis, but it must be remembered that obliteration of a large vessel is by no means necessarily comparable to the condition which is produced by thrombosis occurring in smaller vessels. Far more to the point are the experiments of Prevost and Cotard with regard to the changes which take place in an infarcted area. By injecting fine tobacco powder into the vessels, they succeeded in getting infarcts in various organs, and they proved by these experiments that congestion, hemorrhage, and exudation of cells were the early result of obliteration of small vessels. Having therefore established the possibility of such a condition as is found to be present in these cases of acute encephalitis and poliomyelitis being due to a primary thrombosis, the next point to show would be that the pathological process may be limited to the distribution of a single vessel. If one therefore studies the vascular supply of the spinal cord it is found that the gray matter of the anterior horns receives its chief supply from branches of the anterior median artery, the white matter being chiefly supplied from vessels arising from the pia mater. The branches of this anterior median artery supply the whole of the gray matter of the anterior horns, but not that of the posterior horns. In the spinal cord from cases of infantile paralysis the line of demarcation between an affected and unaffected part is sharply defined and limited to the gray matter of the anterior horns—that is to say the area of congestion, or, in the later stages, of necrosis, corresponds very closely to the area of the blood-supply of the anterior median vessel. It cannot be asserted that the process is always thus accurately limited, for it is well known that the vessels in the ventral portion of the spinal cord and outside the gray matter are often engorged and possibly thrombosed, and again in the gray matter small areas of softening are found which do not occupy the whole of the gray matter. Such conditions are easily explicable, since congestion of vessels commonly occurs around an infarcted area and the localized softening in the gray matter is due to the thrombosis occurring in the smallest vessels. The microscopic appearances of the softening of the gray matter of the spinal cord correspond closely with that due to thrombosis of small vessels in the brain. The very frequent occurrence of anterior poliomyelitis in the lumbar sacral region seems to be another point greatly in favor of the view that the condition is primarily vascular, for it is well known that the gray matter of the anterior horns of the lumbar region is situated at a point most peripheral from its blood supply, *i.e.*, the blood derived from the vertebral artery has to travel the whole length of the anterior median artery, and, further, it has been shown by Moxon that the reinforcing arteries of the roots do not readily assist the supply of that part of the cord. These, then, are the points in favor of the disease being due directly to a primary vascular thrombosis; in favor of the view that the disease is of direct bacterial origin may be quoted its prevalence during a certain period of the year, becoming epidemic, as in the present year, and its occurrence in several members of a family in its various forms, either cerebral or spinal, of which a most interesting example has been published by Dr. W. Pasteur. None of these points, however, are antagonistic to the view upheld by the author, for this infection only supplies the cause of the blood change. Furthermore, in cases of spinal infection that can be shown to be due to bacterial invasion, the changes met with are not limited to the gray matter, but affect gray and white matter alike. The author's arguments have been drawn chiefly from the pathological examination of the spinal cord, as the opportunity for examination of that part of the nervous system most frequently occurs. But what has been said in regard to the nature of the lesion applies equally to those cases in which the medulla, pons, cerebellum, or cortex is affected, the lesion being a primary thrombosis of the finer and terminal arteries. In conclusion, though there are many gaps to be filled up by further pathological investigation, he trusts that he has given grounds for considering cases of acute encephalitis and acute poliomyelitis as clinically identical; pathologically they are identical. The more frequent recognition of these cases of encephalitis will explain many cases of so-called meningitis in which recovery more or less complete takes place.

JELLIFFE.